# Remarks

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and following remarks. Claims 1-12, 17-25, 30, 39, 40, and 45-64 are pending in the application. Claims 1-12, 17-25, 30, 39, 40, and 45-64 are rejected. No claims have been allowed. Claims 1, 17, 18, and 30 are independent.

## *Cited Art*

The final Office action cites:

1. Sun et al., U.S. Publication No. 2003/0053541 (hereinafter "Sun publication");
2. Tsuchiya et al., U.S. Patent No. 5,684,602 (hereinafter "Tsuchiya patent");
3. Ogata, U.S. Patent No. 6,332,043 (hereinafter "Ogata patent"); and
4. Florencio et al., U.S. Patent No. 6,125,147 (hereinafter "Florencio patent").

## *Response to Examiner's Remarks in the Final Office Action*

In the final Office action, the Examiner writes, "The applicant seems to recognize that interpretation toward Tsuchiya use of a CPU to determine available space being part of the system's processing capability. Since the system and the instructions of the CPU are 'adjusted' by it. The examiner fails to see the way the applicant distinguishes between the prior art, Tsuchiya, and the present invention." Final Office action, page 2. The Applicants respectfully disagree with the Examiner's characterizations of the Applicants' arguments and the Tsuchiya patent. In the interest of advancing prosecution, however, the Applicants note that the Examiner appears to be interpreting the claim language "processing capability" to cover determination of available space in a printer buffer as in the Tsuchiya patent. The Applicants have therefore amended the independent claims to recite "processing cycles available to the decoder" (claim 1), "processing power available to the decoder" (claim 17), "determining available processing cycles" (claim 18), and "determining available processing power" (claim 30). Even if, for the sake of argument, determination of available space in a printer buffer (as in the Tsuchiya patent) somehow qualifies as determination of "processing capability" (and the Applicants maintain it does not so qualify), determination of available space (as in the Tsuchiya patent) fails to teach or suggest the "processing cycles" language of claim 1 or 18, nor does it teach or suggest the "processing power" language of claim 17 or 30.

For the sake of completeness, the Applicants address the rejections stated in the final Office action.

### *Patentability of Claims 1-12, 17-25, 30, 39, 40, 48, 53-56, and 59-61 under 35 U.S.C. § 103(a)*

The final Office action rejects claims 1-12, 17-25, 30, 39, 40, 48, 53-56, and 59-61 under 35 U.S.C § 103(a) as unpatentable over Sun publication in view of Tsuchiya patent and further in view of Ogata patent. Applicants respectfully disagree, and Applicants submit the claims in their present form are allowable over the cited art. The cited art does not teach or suggest at least one element of each of these claims. Accordingly, Applicants request that all rejections be withdrawn. Claims 1, 17, 18, and 30 are independent.

#### *Claims 1-12, 39, and 40*

Claim 1 recites, in part:

> encoding the video data;
>
> parameterizing control information other than the encoded video data, wherein the control information facilitates adjustment by a decoder of post-processing filtering of the video data after decoding of the encoded video data, the adjustment being *based at least in part on processing cycles available* to the decoder; and
>
> outputting the encoded video data as well as the control information.

[Emphasis added.] The Application provides examples of control information that facilitates adjustment of post-processing filtering based at least in part on processing cycles:

> Another type of control information indicates a post-processing level (i.e. strength) of de-blocking, de-ringing, and/or other filtering. Bitstream-controlled post-processing is particularly useful when the control information represents the maximum allowed post-processing level. . . . This approach provides some flexibility. If a software decoder does not have enough CPU cycles available to apply level 3 for the frame, it may only apply level 2, etc.

[Application, at page 25, line 17 to page 26 line 2.] In its rejection of claim 1, the final Office action acknowledges that the Sun publication does not teach "parameterizing control information other than encoded video data" or "adjusting being based at least in part on processing capability." [*See* final Office action, at § 6, page 4.] The final Office action finds these in the Ogata patent and the Tsuchiya patent, respectively.

*The Tsuchiya patent does not teach or suggest "adjustment being based at least in part on processing cycles available to the decoder" as recited in claim 1 because its determination is based on available space in a printer buffer, not processing cycles.* Against the previous "processing capability" language of claim 1, the final Office action cites to column 15 of the Tsuchiya patent. This passages states:

> At first, in step 701, *the CPU 1 checks whether there is a space capable of storing more than a predetermined amount of data in the printer buffer 19.* If there is the space, processing proceeds to step 702, the CPU 1 decodes the coded video data in the video memory 6 up to the end of the page and stores the decoded data in the printer buffer 19.

[Tsuchiya patent, at column 15, lines 27-32; emphasis added.] The final Office action also argues, in its Response to Arguments section, that "[t]he applicant seems to recognize that interpretation toward Tsuchiya use of a CPU to determine available *space* being part of the system's processing capability." [Final Office action, at § 3, page 2; emphasis added.]

As the cited passage of the Tsuchiya patent shows, however, the CPU in the Tsuchiya patent does not check "processing cycles available to the decoder," as the amended claim recites. Instead, the CPU in the Tsuchiya patent simply determines if there is *sufficient printer buffer space* for the anticipated data that is to be output. The CPU according to the Tsuchiya patent could have sufficient cycles to perform processing regardless of whether space existed for it to output to, or could have insufficient cycles available even if a large amount of buffer space were available. Checking for available buffer space (as in the Tsuchiya patent) is different than, and leads away from, "adjustment being based at least in part on processing cycles available to the decoder," as recited in claim 1.

Indeed, the Tsuchiya patent's further disclosure demonstrates that it does not teach or suggest checking processing cycles available, as the Tsuchiya patent instead teaches *looping until the printer buffer space is available.* This is described further down in column 15:

> If there is no space in the printer buffer 19, processing proceeds to step 706 and check the condition of the file-in demand flag F1. If the flag F1 has not been set, the CPU 1 waits until the space is provided in the printer buffer 19.

[Tsuchiya patent, at column 15, lines 44-48.] Thus, when finding insufficient available buffer space, the Tsuchiya patent teaches looping to wait for space to become available. This process will use additional processing resources and will do so until it is allowed to exit the loop by the space becoming available.

Finally, Applicants note that, notwithstanding the above arguments, even if the Tsuchiya patent's delay and looping based on available space were considered to be "based at least in part on processing cycles available," *the Tsuchiya patent does not teach or suggest "adjustment" based at least in part on these available processing cycles.* This is clear from the passage quoted above that shows that, even when sufficient space is not available, the Tsuchiya patent teaches looping and then, when space exists, *performing the same action that would have been performed originally.* As the action is performed in the same way once it is eventually performed, the Tsuchiya patent does not appear to "adjust" this action in any way. As such, the Tsuchiya patent's reacting to a current state by delaying a given action until that given action can be performed leads directly away from "adjustment being based at least in part on processing cycles available to the decoder" as recited in the claim. Applicants do not find further relevant disclosure in either the Sun publication or the Ogata patent.

For at least these reasons, the Sun publication, Ogata patent, and Tsuchiya patent, taken either separately or in combination, do not teach or suggest at least the above-quoted language of claim 1. Claim 1, as well as claims 2-12, 39 and 40 which depend from claim 1, are thus allowable, and Applicants request their allowance. Applicants will not belabor the merits of the separate patentability of dependent claims 2-12, 39 and 40.

### *Claims 17 and 53-56*

Claim 17 recites:

> …parameterizing control information other than the encoded video data, wherein the control information facilitates adjustment by a decoder of post-processing filtering of the video data after decoding, *the adjustment being based at least in part on processing power available to the decoder.*

The final Office action rejects independent claim 17 using the same arguments as in the rejection of claim 1. [Final Office action, at § 6, page 6.] For at least the reasons discussed above with respect to the "adjustment being based at least in part on processing cycles available to the decoder" language of claim 1, the Sun publication, Ogata patent, and Tsuchiya patent, taken either separately or in combination, do not teach or suggest the above-emphasized language of claim 17. Claim 17, as well as claims 53-56, which depend from claim 17, are thus allowable and Applicants request their allowance. Applicants will not belabor the merits of the separate patentability of dependent claims 53-56.

*Claims 18-25 and 48*

Claim 18 recites:

> receiving encoded video data in a bitstream as well as control information in the bitstream for controlling post-processing filtering, the control information comprising data in the bitstream other than the encoded video data;
> decoding the encoded video data;
> determining *available processing cycles;* and
> *adjusting, based at least in part upon the available processing cycles and the control information, which post-processing filtering* to perform on the decoded video data..

The final Office action rejects independent claim 18 using the same arguments as in the rejection of claim 1. [Final Office action, at § 6, page 6.] For at least the reasons discussed above with respect to the "adjustment being based at least in part on processing cycles available to the decoder" language of claim 1, the Sun publication, Ogata patent, and Tsuchiya patent, taken either separately or in combination, do not teach or suggest at least the above-emphasized language of claim 18. Claim 18, as well as claims 19-25 and 48, which depend from claim 18, are thus allowable and Applicants request their allowance. Applicants will not belabor the merits of the separate patentability of dependent claims 19-25 and 48.

*Claims 30 and 59-61*

Claim 30 recites:

> receiving encoded video data in a bitstream as well as control information in the bitstream for controlling post-processing filtering, the control information comprising data in the bitstream other than the encoded video data;
> decoding the encoded video data;
> determining *available processing power*; and
> *adjusting, based at least in part upon the available processing power and the control information, which post-processing filtering* to perform on the decoded video data.

The final Office action rejects independent claim 30 using the same arguments as in the rejection of claim 18, and thus, using the same arguments as in the rejection of claim 1. [Final Office action, at § 6, page 7.] For at least the reasons discussed above with respect to the "adjustment being based at least in part on processing cycles available to the decoder" language of claim 1, the Sun publication, Ogata patent, and Tsuchiya patent, taken either separately or in combination, do not teach or suggest the above-emphasized language of claim 30. Claim 30, as well as claims 59-61, which depend from claim 30, are thus allowable and Applicants request their allowance. Applicants will not belabor the merits of the separate patentability of dependent claims 59-61.

### ***Patentability of Claims 45-47, 49-52, 57, 58, and 62-64 under 35 U.S.C. § 103(a)***

The final Office action rejects dependent claims 45-47, 49-52, 57, 58, and 62-64 under 35 U.S.C § 103(a) as unpatentable over the Sun publication, as modified above, in view of the Florencio patent. Each of claims 45 and 46 depends from claim 1, each of claims 47 and 49-52 depends from claim 18, each of claims 57 and 58 depends from claim 17, and each of claims 62-64 depends from claim 30. As explained above, the Sun publication, Ogata patent, and Tsuchiya patent, taken either separately or in combination, do not teach or suggest the above-emphasized language of claims 1, 17, 18, or 30. The Sun publication, Ogata patent, and Tsuchiya patent therefore do not teach or suggest at least one element of each of claims 1, 17, 18, and 30, and do not teach or suggest at least one element of each of claims 45-47, 49-52, 57, 58, and 62-64. The Florencio patent fails to remedy this shortcoming. The Florencio patent describes "a method and apparatus for reducing breathing artifacts" (*see* Florencio patent, at Abstract) but, taken separately or in combination with the Sun publication, Ogata patent, and Tsuchiya patent, still fails to teach or suggest the above-cited language of claims 1, 17, 18, or 30.

The Applicants note the Examiner cites parts of the Florencio patent against the "determining available CPU cycles for applying post-processing filtering" language of claim 47. The Applicants respectfully disagree. The cited parts of the Florencio patent (element 230 or Figure 2, column 7, lines 9-36) describe a controller 230 including a microprocessor that executes software routines. The cited parts of the Florencio patent fail to teach or suggest, however, adjusting processing based on available CPU cycles.

For at least these reasons, dependent claims 45-47, 49-52, 57, 58, and 62-64 should be allowable. Applicants will not belabor the merits of the separate patentability of dependent claims 45-47, 49-52, 57, 58, and 62-64.

## *Conclusion*

The claims in their present form should be allowable. Such action is respectfully requested.

Respectfully submitted,

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